



# The MONITOR

A Newsletter for National Park Service  
Air Quality Station Operators

Spring 2000

Volume 3 Number 2

## NETWORK NEWS

### Ozone advisories in the parks

Since EPA published its new National Ambient Air Quality Standards, several national parks have exceeded the public health standard for ozone concentrations. The new standard for ozone is 85 ppb for an 8-hour average.

Last year the NPS Associate Director for Natural Resource Stewardship and Science issued a guidance memo on ozone advisories in the parks. Two parks, Great Smoky Mountains National Park, Tennessee, and Acadia National Park, Maine, issue warnings to the public when ozone concentrations are high. A third park, Shenandoah National Park, Virginia, issues notices to park staff.

Other parks could also issue ozone advisories. Seven mandatory Class I national parks and two Class II parks exceeded the 85 ppb limit for the 3-year average of the annual 4<sup>th</sup> highest daily maximum 8-hour averages.

*Ozone advisories in the parks continued on page 2....*

### What's inside:

- ◆ Late data submittals result in delayed resource management planning
- ◆ Snowmobile ban coming to Yellowstone
- ◆ Data collection summary
- ◆ Introduction to DataView
- ◆ Station upgrades continue in network
- ◆ NADP sampling coming to more sites
- ◆ ROMO and GRSM beta test DataView

### Great Smoky Mountains seeks volunteers for extensive passive ozone study

The NPS Air Resources Division will be conducting passive ozone sampling at 80 sites in a number of parks under the year 2000 Passive O<sub>3</sub> Sampler Program. More than half of the samplers (approximately 50) will be deployed in Great Smoky Mountains National Park in an intensive ozone monitoring network.

Ozone data will be collected at Great Smoky Mountains from May through September, with core sampling between June 19 and August 28, 2000. Ozone is the most widespread air pollutant affecting public health and vegetation at Great Smokies, and it is increasing.

The data will be mapped to determine the distribution of ozone throughout the park and pinpoint areas where vegetation is most at risk. Previously collected data indicate that lower elevations in the park have large, diurnal ozone changes, while higher elevations show greater ozone concentrations that stay high throughout the day and night.

About two dozen volunteers for the study at Great Smoky Mountains will hike the trails to change passive ozone sampler filters weekly. More information about the passive ozone monitor, including previously collected data, and about the study at Great Smoky Mountains National Park, can be found on the Internet at <http://www2.nature.nps.gov/ard/gas/passives.htm> and <http://www2.nature.nps.gov/ard/gas/o3study.htm>.

### 1999 annual data reports underway

The 1999 annual data reports are in production and are expected to be delivered by July 31, 2000. As in the past, these reports will be distributed in hardcopy form to park staff and state agencies. The reports will eventually be accessible on the National Park Service Web site in .PDF format. Delays in report delivery for some sites may occur if the EPA AIRS database remains inaccessible for an extended period.

**Ozone advisories in the parks continued from page 1....**

Details on ozone concentrations observed at monitoring stations for the affected parks are listed in the following table.

Park Unit Name	CAAA Designation	State	4th Highest 8-hr O3 3-yr Avg
Joshua Tree NP - Black Rock	Class I	CA	109
Great Smoky Mtns. NP - Look Rock	Class I	TN	104
Sequoia NP - Lookout Point	Class I	CA	102
Great Smoky Mtns. NP - Cove Mountain	Class I	TN	100
Great Smoky Mtns. NP - Clingman's Dome	Class I	TN	98
Sequoia NP - Lower Kaweah	Class I	CA	96
Shenandoah NP - Big Meadows	Class I	VA	96
Cape Cod National Seashore	Class II	MA	95
Cowpens National Battlefield	Class II	SC	93
Mammoth Cave NP - Hansen Meadow	Class I	KY	92
Acadia NP - Cadillac Mountain	Class I	ME	89
Yosemite NP - Turtleback Dome	Class I	CA	86
Acadia NP - McFarland Hill	Class I	ME	85

Sites that measured 8-hour ozone averages greater than 85 ppb during the previous month are listed on the NPS AirWeb site at <http://www2.nature.nps.gov/ard/gas/exceed.htm>. If available, individual park advisories are also listed. Park staff can also view useful links, copies of the NPS guidance, and forecasting advice at <http://www2.nature.nps.gov/ard/gas/advisory/ozone.htm>. The new on-site PC systems for the monitoring stations and the DataView program may also provide assistance in identifying and forecasting exceedance days.

**Late data submittals result in delayed resource management planning**

Data packets from station operators should be completed and mailed within 15 days of the end of the month of record. Late data packets result in delayed validation, plotting, and posting, which delays reporting and AIRS submittals, and can ultimately affect land use designation decisions, deposition model runs, and other time-sensitive operations.

The states are preparing lists of non-attainment areas for EPA under the 8-hour standard. Late paperwork from stations has resulted in incomplete ozone data for the 1999 season to be in the EPA AIRS database, from which the states get their summary tables. This may result in states not including national parks in their non-attainment designations. The good news is that NPS pollutant data are used by the states and EPA; the bad news is that incomplete and late data submittals can lead to pollution problems in some parks that may not be recognized by the agencies that designate control measures.

**Snowmobile ban coming to Yellowstone**

Yellowstone National Park, Wyoming, announced in March that it expects to ban snowmobile use in the park beginning with the Winter 2002-03 season. The park has received numerous complaints about air and noise pollution stemming from snowmobiles, as well as safety concerns for both humans and wildlife.

Several alternatives to the problem were proposed in a draft environmental study, which is expected to be finalized and released in June. News of the proposed ban was not taken positively in neighboring towns, whose economies rely on winter tourism. In the 1998-99 season, 63,000 tourists snowmobiled in the park.

Recent studies show that snowmobiles produce more air pollution in the park than other vehicles, even though other vehicles outnumber snowmobiles 16:1. A pollution study in Yellowstone last fall found that snowmobiles emit 10 times as much carbon monoxide and 300 times as many hydrocarbons as cars. A complete report can be found on the Internet at [http://www2.nature.nps.gov/ard/pubs/snowmobile\\_report.pdf](http://www2.nature.nps.gov/ard/pubs/snowmobile_report.pdf).

NPS also announced a national ban on snowmobiles in the parks. ARD and Yellowstone performed monitoring and special studies on emissions in support of the ban that documented the high emissions of snowmobiles. Gary Bishop and Don Stedman from the University of Denver measured snowmobile emissions at Yellowstone in a joint project using their optical remote sensing instrument.

**DATA COLLECTION SUMMARY**

Data collection statistics for July through December 1999 are:

- Sites with final validation of ambient air quality parameter collection greater than 90% include:

Acadia	Big Bend	Canyonlands
Craters of the Moon	Denali	Death Valley
Glacier	Great Basin	Grand Canyon
Great Smoky Mtns. (Cades Cove)	Great Smoky Mtns. (Cove Mountain)	Great Smoky Mtns. (Look Rock)
Joshua Tree	Mammoth Cave	Mount Rainier
Olympic	Rocky Mountain	Sequoia-Kings Canyon (Lookout Point)
Shenandoah	Yellowstone	

- Sites with final validation of ambient air quality parameter collection greater than 80% include:

Chiricahua	Everglades	Great Smoky Mtns. (Clingmans Dome)
Hawaii Volcanoes	Lassen Volcanic	North Cascades
Pinnacles	Sequoia-Kings Canyon (Lower Kaweah)	Virgin Islands
Voyageurs		

- The entire network achieved 89.4% final validation of ambient air quality parameters.

## INTRODUCTION TO DATAVIEW

### New system will allow easier instrument checks and documentation transmittal

#### Overview

DataView, a new computer software system, is being installed at NPS ambient air monitoring network sites beginning this spring. The system will allow station operators to more quickly and easily service air quality instrumentation by performing station checks electronically. It will replace the current pen-and-paper method of preparing log sheets.

The National Park Service DataView system is comprised of a laptop computer, printer, supporting hardware, and a comprehensive suite of software tools for reviewing air quality data and documenting operations at air quality monitoring sites. DataView continuously collects and stores data from the station datalogger. It allows the operator to review current and recent past air quality data, and assists with calibration, maintenance, operation, and troubleshooting of the station instrumentation.

#### Features

DataView supplements the station datalogger, the primary source of network data. Primary data will not be directly affected if DataView fails.

DataView operates with standard Microsoft Windows features such as pull-down menus and on-screen buttons. Screen displays are checklists that guide operators through each weekly and monthly site visit



Field Specialist Mike Bagby tests the DataView system in ARS' Air Quality Laboratory.



Computer screen showing the DataView checklist for a weekly ozone analyzer check.

With each station visit, instrument checks and documentation will be entered into DataView. The Information Management Center (IMC) will download this information daily by telephone modem, and will review data and resolve validation problems through the DataView system and/or datalogger. Station operators have the option to print hardcopies of the computer screens, however, there will be no regular need to mail hardcopy strip charts and handwritten log notes to the IMC. Paperwork will need to be forwarded to the CASTNet and PRIMENet contractors to meet their quality assurance requirements.

In the event of computer failure, backup forms (looking similar to the screen display checklists) will be completed by the operator and faxed to the IMC. The IMC will maintain all digital and hardcopy records of site documentation; monitoring sites will not need to maintain any long-term documentation.

Beginning June 1, 2000, each site will receive a *Site Operator's Manual for Ambient Air Quality Monitoring Systems* containing backup forms, detailed hardcopy instructions for completing the DataView checklists, and other information. To get acquainted with the new system, operators should begin using the new forms for weekly station checks. After DataView installation, the forms will only need to be completed in the event of DataView failure.

*Introduction to DataView continued on page 4...*

Introduction to DataView continued from page 3...

### Screen Menus

DataView contains 10 pull-down menus:

- Log In - station operators will log into the system with a user name and password.
- Alarms - alarms, indicating potential data or system problems, or schedule reminders are displayed.
- Current Averages - current values of all parameters collected by the datalogger are listed.
- Station Documentation - digital station logs and site visit and multipoint checklists are included.
- Data Plots - strip charts and stack plots can be reviewed.
- Data Tables - a variety of data tables can be viewed.
- References - unit conversions, calendar, calculator, glossary of air quality terms, and more.
- Print - allows the user to print any DataView screen.
- Log Out - terminate a DataView session.
- Help - provides comprehensive DataView help.
- Window - allows navigation among open screens.

Station operators can expect to receive the new DataView system during regularly scheduled semiannual site visits this year.

## NEWS FROM THE FIELD



### Station upgrades continue in network

Network sites continue to be upgraded to improve monitoring operations. The following sites have or will soon see some changes:

**Big Bend NP** - Big Bend received a new, larger shelter to better accommodate all its instrumentation. SO<sub>2</sub> sampling initiated for the 1999 BRAVO study continues.

**Pinnacles NM** - The Dasibi ozone analyzer and calibrator were replaced by two TECO 49Cs in March. This change makes the Pinnacles air quality station one of the forerunners of new equipment.

### NADP sampling coming to more sites

The NPS has added National Acid Deposition Program sites at Death Valley NP, Hawaii Volcanoes NP, Mount Rainier NP, and Pinnacles NM. Additional sampling sites at Joshua Tree NP, Lassen Volcanic NP, and Voyageurs NP will be installed this spring and summer.

### ROMO and GRSM beta test DataView

The DataView computer software system, which will begin deployment in the network beginning this spring, has been beta tested at Rocky Mountain and Great Smoky Mountains National Parks. Operators at the two parks tested the system for several weeks this spring.

### The MONITOR

is published biannually (Spring and Fall) by Air Resource Specialists, Inc. under Contract CX-1270-96-007, for ambient air quality site operators in the National Park Service. For information or address corrections relating to this newsletter, or for assistance with operational site problems, contact:



1901 Sharp Point Drive, Suite E  
Fort Collins, CO 80525  
Telephone: 970/484-7941  
Toll Free: 1-800/344-5423  
Fax: 970/484-3423  
E-mail: info@air-resource.com

The Monitor is also available on the Internet at <http://www2.nature.nps.gov/ard/gas/network.htm>

Newsletter production consultant:  
John D. Ray - Program Manager, NPS ARD  
Telephone: 303/969-2820

Editor:  
Gloria S. Mercer - Air Resource Specialists, Inc.  
Telephone: 970/484-7941 ext. 221



### NPS Ambient Air Quality Monitoring Network

